

DETAILED ACTION

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Romary 8/9/2011.

The application has been amended as follows:

19. (Currently Amended) A pointing device comprising:

a ring-like magnet that is movably supported in a plane to move to various locations within that plane, and is magnetized such that said ring-like magnet comprises pairs of inner and outer ring sections of north and south magnetization that are both in said plane and each pair of said north and south sections is at a same angle along a radius of said ring-like magnet ~~and said ring-like magnet is parallel to said plane~~; and

a plurality of magnetic sensors for detecting magnetic flux density produced by said ring-like magnet in a direction parallel to said plane are placed outside said ring-like magnet, wherein

 said magnetic sensors are disposed symmetrically from each other to said ring-like magnet, and

said magnetic sensors are positioned to detect variations in the magnetic flux density in the direction parallel to said plane, the variations being caused by movement of said ring-like magnet in a direction parallel to said plane,

wherein said inner ring sections are of both north and south magnetization such that inner ring sections of north magnetization are placed in an alternative manner with respect to inner ring sections of south magnetization along an inner circumference of said ring-like magnet.

51. (Currently Amended) A pointing device comprising:

a ring-like magnet that is movably supported in a plane to move to various locations ~~with~~ within that plane, and is internally and externally magnetized along said ring in said plane such that said ring-like magnet comprises inner and outer pairs of ring sections of north and south magnetization that are both in said plane and each pair of said north and south magnetization that are both in said plane and each pair of north and south sections is at a same angle along a radius of said ring-like magnet and said ~~ring-like magnet is parallel to said plane~~; and

a plurality of magnetic sensors wherein said plurality of magnetic sensors are positioned such that a distance from an intersection of half way between an upper and lower surface of said ring-like magnet and a half way point of said magnetic sensors is within a range from 0 to 0.75 mm in a vertical direction to said plane,

wherein said magnetic sensors are positioned to detect variations in the magnetic flux density in a direction parallel to said plane, the variations being caused by movement of said ring-like magnet,

wherein the internal magnetization of said ring-like magnet contains sections of north magnetization placed in an alternative manner with respect to sections of south magnetization along an inner circumference of said ring-like magnet.

The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach:

19. (Currently Amended) A pointing device comprising:

a ring-like magnet that is movably supported in a plane to move to various locations within that plane, and is magnetized such that said ring-like magnet comprises pairs of inner and outer ring sections of north and south magnetization that are both in said plane and each pair of said north and south sections is at a same angle along a radius of said ring-like magnet and said ring-like magnet is parallel to said plane; and

a plurality of magnetic sensors for detecting magnetic flux density produced by said ring-like magnet in a direction parallel to said plane are placed outside said ring-like magnet, wherein

said magnetic sensors are disposed symmetrically from each other to said ring-like magnet, and

said magnetic sensors are positioned to detect variations in the magnetic flux density in the direction parallel to said plane, the variations being caused by movement of said ring-like magnet in a direction parallel to said plane,

wherein said inner ring sections are of both north and south magnetization such that inner ring sections of north magnetization are placed in an alternative manner with respect to inner ring sections of south magnetization along an inner circumference of said ring-like magnet.

51. (Currently Amended) A pointing device comprising:

a ring-like magnet that is movably supported in a plane to move to various locations within that plane, and is internally and externally magnetized along said ring in said plane such that said ring-like magnet comprises inner and outer pairs of ring sections of north and south magnetization that are both in said plane and each pair of said north and south magnetization that are both in said plane and each pair of north and south sections is at a same angle along a radius of said ring-like magnet ~~and said ring-like magnet is parallel to said plane~~; and

a plurality of magnetic sensors wherein said plurality of magnetic sensors are positioned such that a distance from an intersection of half way between an upper and lower surface of said ring-like magnet and a half way point of said magnetic sensors is within a range from 0 to 0.75 mm in a vertical direction to said plane,

wherein said magnetic sensors are positioned to detect variations in the magnetic flux density in a direction parallel to said plane, the variations being caused by movement of said ring-like magnet,

wherein the internal magnetization of said ring-like magnet contains sections of north magnetization placed in an alternative manner with respect to sections of south magnetization along an inner circumference of said ring-like magnet.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Beck can be reached on 571-272-7765. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Grant D Sitta/

Primary Examiner, Art Unit 2629